Name: ..... **Class:** .....

Task 1

1. This image uses four colours so requires 2 bits per pixel. Fill each pixel in the image as a computer using the key.

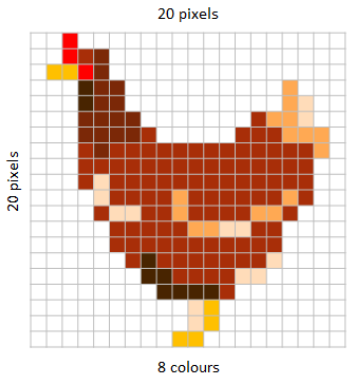
10	10	10	10	10	10	10	10	10	10	10	10	10	10
10	00	00	10	00	00	10	00	00	10	00	00	00	10
10	00	00	10	00	00	10	00	00	10	00	00	00	10
10	10	10	10	10	10	10	10	10	10	10	10	10	10
10	00	00	10	00	00	10	00	00	10	00	00	00	10
10	00	00	10	00	00	10	00	00	10	00	00	00	10
10	00	11	10	10	10	10	10	10	10	10	10	10	10
10	11	11	10	10	10	10	10	10	10	10	10	01	01
10	10	10	10	11	11	10	10	10	10	11	11	10	10
00	00	00	00	11	11	00	00	00	00	11	11	00	00

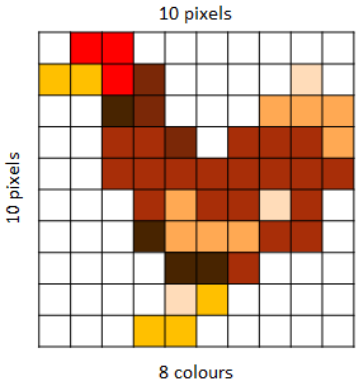
Key:

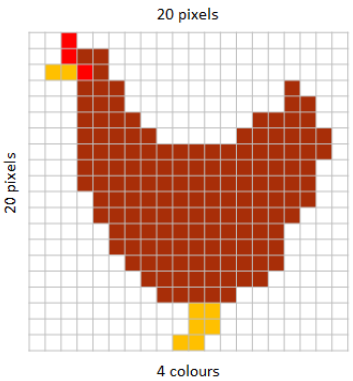
01	00	11	10

2. Calculate the file size of the following images:

	Image Resolution	Number of colours	Colour depth in bits	File size in bits	File size in Bytes
Image 1	**20 x 20**	**8**			
Image 2	**10 x 10**	**8**			
Image 3	**20 x 20**	**4**			





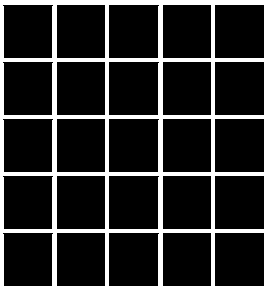


3. How does increasing the image resolution affect the file size?

4. Explain the relationship between image quality and file size

Task 2

1. Using the following bit pattern, shade in the pixel grid to create a black and white bitmap to create an image where black = 1 and white = 0: `00100 01110 11111 00100 01100`



2. What is the bit pattern for the following icon image where black = 1 and white = 0?